



Focus on The benefits of recycling

from Ecology's Solid Waste and Financial Assistance Program

*Based on Washington's 2002 Recycling Efforts**

Recycling conserves natural resources

Each ton of solid waste diverted from disposal, whether reused, recycled or composted, is one less ton of solid waste requiring disposal. The value of reusing, recycling and composting solid waste is clear when you consider the amount of disposal space required to accept that material. By implementing other waste-management strategies (as well as resource-management strategies), we reduce our dependence on incinerators and landfills. And when using recycled materials in place of trees, metal ores and minerals, there is less pressure to expand forestry and mining production. **By recycling more than 475,000 tons of scrap steel in 2002, Washington's recycling efforts reduced the need for virgin materials by twice that amount, including 596,000 tons of iron ore, 334,000 tons of coal and 29,000 tons of limestone.**

Recycling provides environmentally preferable sources of raw materials

Recycling is more than a waste-management strategy; it is also an important strategy for reducing the environmental effects of industrial production. Supplying industry with recycled materials, instead of "virgin" resources extracted from forests and mines, is preferable because it saves energy, reduces dangerous air and water pollutants, such as greenhouse-gas emissions, and because it conserves scarce natural resources. **In 2002, Washington recycling programs supplied industry with more than 4,900,000 tons of recycled commodities such as metals, plastics, paper, glass, wood, and construction and demolition scrap.**

Recycling saves energy

Saving energy is an important environmental benefit of recycling, because using energy usually requires fossil-fuel consumption and involves air-and-water pollutant emissions. The energy required to manufacture paper, plastics, glass and metal from recycled materials is generally less than the energy required to produce them from virgin materials. Additionally, providing recycled materials to industry (including collection, processing and transportation) typically uses less energy than supplying virgin materials to industry (including extraction, refinement, transportation and processing). **The 1,459,830 tons of metals, paper, glass and plastic recycled in Washington in 2002 saved about 22 trillion BTUs of energy, equal to nearly 3 percent of all energy used by industry in the state. This is enough to power more than 18,000 homes for an entire year!**

Recycling reduces greenhouse-gas emissions

A great amount of energy used in industrial processes and in transportation involves burning fossil fuels. Recycling helps stem global climate-change dangers by reducing the amount of energy used by industry, thus reducing greenhouse-gas emissions. **Washington's measured recycling efforts for 2002 reduced greenhouse-gas emissions by almost 1.2 million tons, or 385 pounds per person for the year.**



Recycling reduces emissions of air and water pollutants

Recycling can significantly reduce the amount of pollution entering the air and water. There is more benefit because less fossil fuel is used and because recycling keeps materials out of landfills, where they can introduce contaminants into groundwater systems. Recycling also keeps materials out of incinerators, which can pollute the air and create ash residue. Twenty-seven different types of air and water pollutants are reduced when companies recycle instead of use virgin resources in manufacturing and disposing of the waste products. **In 2002, Washington's measured recycling efforts reduced almost 7,600 tons of water pollutants and 124,000 tons of air pollutants (not including the greenhouse gas reductions mentioned above).**

Energy Savings and Greenhouse Gas Impacts from Recycling

In Washington State – 2002

(Relative to energy required for virgin production)*

Material/Grade	Tons Recovered	BTUs Saved (in millions)	Tons Greenhouse Gases Reduced (MTCE)
Newspaper	187,585	1,803,446	118,372
Mixed Paper	268,363	3,733,728	355,850
Cardboard	417,534	3,012,236	304,835
Glass	64,937	233,322	6,927
Aluminum	12,718	1,927,551	49,703
Tin Cans	9,417	210,915	5,477
Ferrous Metals	476,611	10,674,773	277,186
PET Plastics	5,886	168,239	3,877
HDPE Plastics	6,029	103,978	2,411
LDPE Plastics	9,775	239,381	5,177
Other Plastics	949	16,367	380
Food Waste	70,904	N/A	1,740
Yard Debris	380,882	N/A	9,167
Other Organics	944,066	N/A	22,721
Total	2,855,656	22,123,936	1,163,823

*Based on the following sources: Department of Ecology 2002 Recycling Survey; the Environmental Benefits of Recycling model, a Northeast Recycling Council project; Energy Information Administration, Washington State Energy Data Report for 2000.

**Includes wood composted and burned for energy, land clearing debris, and other wastes destined for composting.

For more information

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